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teaches a lattice constant, namely  $a = 10.117$ . If the Examiner is referring to Weiher et al. noted at page 8, line 6 (from bottom) of the specification, Applicants note that the reference simply relates to the calculation of indirect transition points. Nevertheless, Applicants now cite both references in an IDS.

If the Examiner is referring to the "Wyckoff indication" at page 2, line 33 to page 3, line 2, of the specification, Applicants note that the "Wyckoff indication" is simply a classification schema for atomic coordinates well known to those of ordinary skill in the art. Since the "Wyckoff indication" is not a reference *per se*, Applicants now enclose an extract from a textbook providing the Wyckoff indications for lattice points 8a, 8b, 16b, 24d and 48e as recited in the specification. The extract is not a reference and is being submitted as a courtesy to the Examiner.

Finally, Applicants now submit an English translation of the Nippon Kagaku Kaishi, 1999, Vol. 5, pp 323-327 ("**Kiyoshima et al.**", which was improperly referenced as "Ryuta et al." by the Examiner) reference showing that Kiyoshima et al. was published on May 10, 1999, which is **after** the earliest effective filing date of the captioned application, *i.e.* April 30, 1999. Therefore, Kiyoshima et al. is not a proper reference under § 102(a). Notably, Kiyoshima et al. is also not a proper reference under § 102(b)

since the May 10, 1999, publication date of Kiyoshima et al. is less than one year prior to the International application filing date of March 27, 2000, of the captioned application.

Accordingly, Applicants respectfully request the Examiner to reconsider and allow all claims pending in this application.

**1. Rejection of Claim 3**  
**under 35 U.S.C. § 102(b)**

The Office Action rejects claim 3 under 35 U.S.C. § 102(b) as being anticipated by Appl. Phys. Lett. 1994, 64(21), pp. 2876-2878 ("Kohiki et al."). The Office Action states:

Kohiki et al. teach the enhancement of the conductivity of Zinc Oxide through doping of hydrogen ions by ion implantation of highly resistive thin films deposited by RF magnetron sputtering, and by annealing the sample at 200°C in N<sub>2</sub> atmosphere (Abstract). Walle et al. (Appl. Phys. Lett. 2000, 85(5), pp 1012-1015) disclose the wurtzite phase of the ZnO to be the stable phase for ZnO (page 1012, column 2, lines 12-13), and this reference is being used to establish stable crystalline structure of the ZnO target material, and not as a primary reference for the rejection of the claim. Normally, only one reference should be used in making a rejection under 35 U.S.C. 102. However, a 35 U.S.C. 102 rejection over multiple references has been held to be proper when the extra references are cited to:

(A) Prove the primary reference contains an "enabled disclosure";

(B) Explain the meaning of a term used in the primary reference; or  
(C) Show that a characteristic not disclosed in the reference is inherent (See MPEP 2131.01).

It is the examiners position that the method of implanting Hydrogen into ZnO used by Kohiki et al. is the same as that used by the applicants (see specification, pages 11-12, Example 3) and the stable phase of ZnO being wurtzite as shown by Walle et al., the limitation of "H-introduced into a vacant point of ZnO with wurtzite structure" by the applicants in claim 3 would be inherent. All the limitations of the instant claims are met.

Applicants respectfully traverse the rejection of claim 3 over Kohiki et al. because a *prima facie* case of anticipation has not been established. However, in the interest of advancing prosecution, Applicants have canceled claim 3 from the application without disclaimer or prejudice as to the subject matter contained therein. Therefore, Applicants submit that the rejection is now moot.

Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claim 3 under § 102(b).

**2. Rejection of Claim 2**  
**under 35 U.S.C. § 102(b)**

The Office Action rejects claim 2 under 35 U.S.C. § 102(b) as

being anticipated by Nippon Kagaku Kaishi, 1999, Vol. 5, pp 323-327 ("Kiyoshima et al.", improperly referenced as "Ryuta et al." by the Examiner). The Office Action states:

Ryuta et al. [sic] disclose the preparation and properties of lithium doped indium oxide wherein the peaks from the cubic structure showed an increase lattice constant from 10.116 Angstrom to 10.163 Angstrom upon varying the Li/In<sub>2</sub>O<sub>3</sub> ratio from 0 to 0.4 and XPS showed the doping of Lithium at 8a or 16c sites of In<sub>2</sub>O<sub>3</sub> crystal that meets the limitations of the instant claim 2. The disclosure by Sasaki et al. (Abstract) corroborates the results on lattice expansion of In<sub>2</sub>O<sub>3</sub> upon doping by Li and this reference is not being used in the rejection of the claim.

It is the examiners position that the method of making lithium doped In<sub>2</sub>O<sub>3</sub> samples by Ryuta et al. by the calcinations of dried powders obtained from aqueous solutions of InCl<sub>3</sub> with Li that is similar to the method of preparation of the claimed materials by the applicants (see specification, pages 6-7, Example 1), and by virtue of the X-ray and XPS data by Ryuta et al., the doping sites the In<sub>2</sub>O<sub>3</sub> and the crystal lattice limitations of the oxide by the applicants in the instant claim 2 would be inherent.

As noted *supra* in the Remarks section, Kiyoshima et al. is not a proper prior art reference. In particular, an English translation of Kiyoshima et al. submitted herewith shows that Kiyoshima et al. was published on May 10, 1999, which is after the earliest effective filing date of the captioned application, i.e.

April 30, 1999. Therefore, Kiyoshima et al. is not a proper reference under § 102(a).

Kiyoshima et al. is also not a proper reference under § 102(b) since the May 10, 1999, publication date of Kiyoshima et al. is less than one year prior to the International application filing date of March 27, 2000, of the captioned application. Since the effective filing date for § 102(b) purposes is the International application filing date, a *prima facie* case of anticipation has not been established against claim 2. In view of the submitted English translation, it is clear that Kiyoshima et al. is not available as prior art.

Accordingly, Applicants respectfully submit that the presently claimed invention is unanticipated by the cited reference and respectfully request reconsideration and withdrawal of the rejection of claim 2 under 35 U.S.C. § 102.

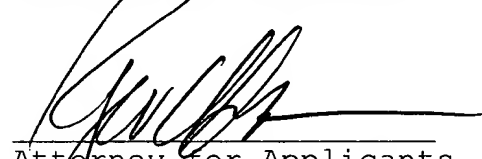
#### CONCLUSION

In light of the foregoing, Applicants submit that the application is now in condition for allowance. The Examiner is therefore respectfully requested to reconsider and withdraw the rejection of the pending claim and allow the pending claim.

Favorable action with an early allowance of the claims pending is earnestly solicited.

Respectfully submitted,

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